

The Relationship of the Body-Kinesthetic Intelligence with the Performance of Some Basic Motor Skills among Pre-School Children (5 Years)

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Abstract

The study aims to identify the relationship between body-kinesthetic intelligence with some basic motor skills (running, throwing) among preschool children 5 years. The descriptive approach was retained in the corrective method for its relevance and nature of the study, The descriptive approach was used, while the study sample was selected from of Sonatrach company the children for the academic year 2020/2021, and they numbered 21 children, and they were selected using a simple random method. The results have proved the existence of a significant correlation between the choices of body-kinesthetic intelligence and the results of the motor skill tests. The researcher recommended the need to pay attention to the mental abilities and motor skills abilities of children in the pre-school stage.

Keywords: Kinesthetic Intelligence, Motor Skills, Preschool, Children.

Introduction and study problematic

The study of the development of the child's driving capacity and the development of its intelligence in the preschool is to consider among the areas that was at the center of interest through the various studies of researchers, not only in psychology and didactics, but also in different fields of the educational sport domain and motor skill education. Studies on mental abilities including intelligence did not take a scientific form that is based on scientific experience, thanks to the continuing scientists' effort to understand these capacities; research was able to exceed the phase of the description and goes to scientific verification. Since intelligence is one of the important variables in learning of motor skills as indicated (Hazem, 2016) that it is closely linked to mental activity and requires a concentration and a rapid awareness, and confirms that modern theories of intelligence in the field of education such as the theory of multiple intelligence has changed the traditional concept of intelligence as a general mental capacity, and the theory treats intelligence in a number of types, leaving intelligence in the number of types (leaving intelligence as a set of independent capabilities, both of which people have in many areas and the multiple intelligence (Shahbo & Wadham, 2017) (according to the multi-integrated scope, which stipulates that the most important contribution that the learning of development is to guide them to their aspects of distinction in the interests and the kinesthetic intelligence as the individual to use any merient intelligence (Hassan, 2013) to cope with problems with the coordinating body of the body. Gardner think that mental and physical activities are interdependent in this type of intelligence, and many studies have adopted the multiple intelligence approach in studies of the sports sciences, such as the study (Bazio and Boussif,2020) and those of (Boujamaa & Boukhalifa 2015) based on the studies of those interested in the education of the preschool age, who see that the basic skill-intensive skills. The obligation of the general basis (Zawawid and others , 2018), (Assaad, 2014) et (Al Ghurairi, 2010), the researchers noted the lack of studies between the mental skill-entered and injury, and the (such as the study of the intellectuality, the contingently studied, the contrary, the success of the researcher perceptions associated with the mental-intensive perceptions and the intelligence of the intelligence of the duty in order to improve the performance of the integrated driving integrations in the context of the following question:

- Is there a statistically significant correlation between body-kinesthetic intelligence and the performance of certain basic motor skills in pre-school children (05 years)?

The sub-questions:

- Is there a statistically significant correlation between the body-kinesthetic intelligence variable and the Running skill of the pre-school children (05 years)?

- Is there a statistically significant correlation between the body-kinesthetic variable and the Throwing skill of the pre-school children (05 years)?

In order to respond to these proposed questions, the following general hypothesis has been proposed:

There is a statistically significant correlation between body-kinesthetic intelligence and the performance of certain basic motor skills in pre-school children (05 years).

The following partial hypotheses are derived from it:

- There a statistically significant correlation between the body-kinesthetic intelligence variable and the Running skill of the pre-school children (05 years).
- There a statistically significant correlation between the body-kinesthetic intelligence variable and the Throwing skill of the pre-school children (05 years).

Followed Methodologies

Sample

The study sample is represented by 21 children (05 years) in Sonatrach foundation in- City of Biskra (Algeria) who are registered for the academic season 2020/2021 /and chosen by the simple random method, The exploratory research sample numbered 06 children. For the purpose of ascertaining the psychometric characteristics of the study tools, the researcher used the method of applying the study tools and re-applying them after a period of one week.

Procedures for research

The method: To achieve the objectives of the search we used the descriptive method based on the correlative method

Search variables

- The independent variable: the independent variable represented in the body-kinesthetic intelligence.
- All dependent variable: The search dependent variable represents us in: basic motor skills (run, throw).

Research Tools

First: Motor skills Tests

After reviewing the most important sources that are interested in the basic skills of an preschool agenda adjacent to the movement in the field of educational sport, the most important of them were presented at a number of specialists in the field of education and sport, and the following events have been selected: - Right-to-straight racing test: according to (Derouiche 1999) The purpose of the test is to measure the transition rate of a race of 15m. A stopwatch is used in the test, specifying a 15-mound line, wherein the start and arrival line are indicated. With regard to the scanning and calculation method, the tester is placed behind the starting line when hears the signal, starts running fast and calculating the time it has driven current as an indicator for calculating the score. Test of Throwing the ball: (Husseini and others, 2021, p 250): the test is to measure the force of the arms. This test requires flat floor on a straight line, tennis balls and a measuring tape, the method of implementation the child stands behind the starting line, and when the signal is given, the child throws the ball forward as far as possible, where the child uses his favorite arm, and the throw is overhead. The child is given three attempts, recording the best shot from the three attempts.

Table 1: Validity and reliability of tests

Test	Unit of measurement	Test n 01		Test n 02		Pearson correlation	Validity
		average	Standard deviation	average	Standard deviation		
Run test 15 m	Se+cond	4,5714	0,78680	4,5000	0,50000	0,847	0,92
Test of Throwing the ball	Centimeter	4,4286	0,53452	4,5000	0,50000	0,624	0,79

Source: The author

Is clear from the table (2) that Pearson correlation coefficients indicate the test stability, where values have reached between 0.624-0.847, which are all correlation coefficients that can be reassured to judge the reliability of the test. To be calculated the degree of validity of the tests, The researcher has calculated the validity, which we obtain by calculating the square root of stability, and the subjective validity coefficient in all tests between 0.79-0.92 and all are reassured to judge the validity of the tests.

Second: body-kinesthetic intelligence Tests

body-kinesthetic intelligence Tests were used for children prepared by (Makki et Hussein, 2013).

The release the ball on the target line:

the purpose of the test is to measure the level of body-kinesthetic intelligence; the targeted sensory receptors are the perception of a driving. A white adhesive tape, a plastic ball of a circumference of 50 cm and a weight of 250 G, are used in this test. For the starting line to be drawn at a distance of 03 meters of a line drawn so-called target line, and a width of 5 cm, so that the child is standing behind the starting line and hold the ball both in hand, then launches the ball from the bottom up. The attempt to drop it over the target line gives the child five attempts to be done in the test, the distance is an indication of the test, because the distance between the place where the ball falls and the target line is calculated and the weakest distance is the best, then the result of the five attempts is added and divided by 05. The result expresses the degree of choice by the centimeter. Racing test around the circle and then go back: The test is intended to measure the level of motor intelligence. The target sensory receptors are the inner ear (vestibular system). A stopwatch, a whistle, a white adhesive or chalk are used in this test, by drawing a circle with a radius of 2 meters a starting line is repeated on the circumference of the circle anywhere, and it is placed on half the circumference of the circle, and on the quarter of the circle certain brands. The child is standing on the starting line, and when he hear the starting signal, it runs around the circle during a complete tower, then returns around the circle for a quarter of a turn, then runs forward around the circle during a complete tower, then returns to the circle of a half-turn, then advance on the circle of a complete tower The time is a test indicator, because the time execution time is calculated for the child who is closer to ten seconds, less time, it is better. Audio distinction test and the race to the shape associated with it: the test is intended to measure the level of kinesthetic intelligence. The target sensory return is the hearing. A stopwatch and a whistle are used in this test. A circle of diameter 1 meter is drawn, and an equilateral triangle with a length of each side is 1 meter. An equilateral square, the length of each side is 1 meter, and it is colored in red, and the distance between each form and another is 1 meter, so the distance between the three forms is 5 meters, and the three forms are semi-horizontally on the ground and are remote from the starting line 5 meters. One meter for each form and also three different musical sounds, to be determined by the researcher so that each form has a specific sound, the child is on the starting line, the evaluator displays three specific sounds to make the child to hear, and explains that each sound is linked to a certain geometric form of the three forms when the researcher issues a specific sound associated with a specific form of the three forms, the child runs around this shape associated with the sound to be indoors. The child gives three attempts to perform the test, and the time is considered an indicator of the test. The time the child ran to stand inside the given figure is calculated, not nearly a tenth of second for each attempt. Longness is the best, and the time of the best attempt is calculated. Tower test at the center of the circle: The test is intended to measure the level of intelligence intensified so that the target sensor receptors are the perception of motor. This test uses a white sticker, an eye band, which draws a circle of a diameter of 2,20 meters, and divided from the inside in four successive areas, each zone takes a certain degree that increases to the center of the circle, and it is 5 meters from the starting line to the center of the circle. The test while he has no banded eyes the child is entitled to five attempts to perform the test while he has bored. If the child is held inside the first region, he gives 1 a degree, and in the second region, he gives 2 a degree, and in the third region, he gives 3 a degree, and in the fourth region, it gives (4) a degree, depending on the end of the heels of the child within the region, as well as the total score of the child in the test will be 20 points if all attempts are correct, but if all the attempts fail, then the score is (zero) degrees.

Table 2: Validity and reliability of tests

Test	Unit of measurement	Test n 01		Test n 02		Pearson correlation	Validity
		Average	Standard deviation	Average	Standard deviation		
Ball Drop Test	Centimètre	16,1429	0,69007	16,0714	0,60749	0,767	0,89

Test of the race around the circle	Second	31,7314	0,72221	31,3571	0,74801	0,861	0,93
Distinction test audio	Second	5,7143	0,56695	5,5714	0,53452	0,629	0,79
Test	Unit of measurement	Test n 01		Test n 02		Pearson correlation	Validity
		Average	Standard deviation	Average	Standard deviation		
Test walking to the center of the circle	Degre	15,2143	0,26726	15,1429	0,24398	0,730	0,85

Source: The author

clearly reflects the table (02) that Pearson correlation coefficients indicate the test stability, where the values have reached between (0.6290 - 0.861) in all tests, and all are coefficients, results that can reassure to judge the reliability of the test and to calculate the degree of validity testing researchers have calculated reliability, which is obtained by calculating the square root of reliability, and the coefficient of reliability in all tests varied between (0.79 and 0.93), and all are reassured to judge the validity of the tests.

Statistics tools: average, standard deviation, Pearson correlation coefficient.

Results

First: read and analyze the results of the first partial hypothesis, which stipulate that There a statistically significant correlation between the body-kinesthetic intelligence variable and the Running skill of the pre-school children (05 years). In order to verify this hypothesis, the Pearson Correlation Coefficient was calculated between the Kinesthetic Intelligence Test Battery Units and the Silver Performance Testing Study on the Sample studied as follows:

Table 3: The Pearson Correlation Coefficient Results of the Kinesthetic Intelligence Testing and Foot-to-Hand Performance Testing Units.

Sample 21	Kinesthetic Intelligence Test Battery	Intelligence Testing Suite kinesthetic		Racing Test 15 m		Pearson Correlation	Indication
		Average	Standard deviation	Average	Standard deviation		
	Ball Drop Test	16,5714	5,43665	6,2143	1,1359	0,874**	Strong direct correlation
	Test of the race around the circle	32,2000	1,18954	6,2143	1,1359	0,888**	Strong direct correlation

	Distinction test audio	6,0000	1,02470	6,2143	1,1359	0,808**	Strong direct correlation
	Test walking to the center of the circle	11,2619	4,51281	6,2143	1,1359	0,822**	Fort correlation inverse

Source: The author

can be seen in the table (3) that the values of the Pearson correlation coefficient between the skill performance test to run and the units of the body - kitesthetic intelligence testing battery which reached (0.874 **, 0.888 **, 0.888 **, 0.802 **), which are all statistically significant values that shows the existence of a correlation of the race skills performance and the four body- kinetic intelligence tests., which is (bottle testing of the circle, the test of the circle, the market, the step of the circle, the market, the market. The center of the circle), where there is a strong direct correlation of the run test 15 m s and the three-ball test, the transition test of the circle, whereas there is a strong inverse test between the results of run test 15 m test and the test of the body- kinetic intelligence tests.

Secondly: with regard to the "second hypothesis": There a statistically significant correlation between the body-kinesthetic intelligence variable and the Throwing skill of the pre-school children (05 years) and to verify this hypothesis, the study of Pearson the correlation coefficient was calculated between the battery units of the Kinesthetic Intelligence Test and the Skill Performance Test to launch it on the sample studied as follows:

Table 4: shows the results of the Pearson correlation coefficient between the driver's integrated testing battery units at the launch.

Sample 21	Body- Kinesthetic Intelligence Test Battery	Kinesthetic Intelligence Test Battery		Racing test 15 m		Pearson Correlation	Indication
		Average	Standard deviation	Average	Standard deviation		
	Ball Drop Test	16,5714	5,43665	6,2143	1,1359	0,874**	Strong direct correlation
	Test of the race around the circle	32,2000	1,18954	6,2143	1,1359	0,888**	Strong direct correlation
	Distinction test audio	6,0000	1,02470	6,2143	1,1359	0,808**	Strong direct correlation

	Test walking to the center of the circle	11,2619	4,51281	6,2143	1,1359	0,822**	Strong inverse correlation
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Source: The researcher

Is shown in the table (04) that the values of the Pearson correlation coefficient between the throwing test and kinetic intelligence tests were (-0,896 **, -0.742 **, 0.703 **, -0.573 **), which are all statistically significant values indicating a significant correlation relationship between the testing and the four kinetic intelligence tests represented in (the trial test, the test of the circle, the sound test, the marching to the center of the circle), where there is a strong reverse correlation between the results of the throw test and the three kinetic intelligence tests represented by the ball driving test, the race test of the circle, whereas a strong correlation between the results of the throwing test and the body- kinetic intelligence tests represented by (the time test to the center of the circle).

Discussion

The first partial assumption stated that there is a statistically significant correlation between the variety of kinesthetic intelligence and the race performance of the preschool children 5, and the second partial assumption indicated that there is a significant statistically significant correlation between the variety of kinesthetic intelligence and the performance of launching in preschool children 5 years. Thanks to the results obtained from the applied study of the tables (3) and (4), it was found that the values of the Pearson Correlation Coefficient between the basic skills testing units and the units of the intelligence tests. Were all statistical values. Indicative of the existence of a significant correlation between the units of the basic motor persus under the study (run, throw) and the four kinetic intelligence test units shown in (ball drop test, race test of the circle, sound test Distinction test, walk to the center of the circle), where the correlation was either reverse either between them and, in conclude themselves from: these exists with a variety of the interests. the results of the study, and the results obtained may be discussed through the theoretical readings related to the study, which (al-Ghurairi, 2010) indicates that the smart child may be able to control their body parts and can be more difficult, as the child movements are developing on the balance and launch, and the impact of its mental abilities of sensation, conscience and control. According to (Mohammed Abd Al-Rahim and others, 1983) The body's ability to perform motor activities depends on their mental abilities through information from sensory kinetic receptors and the effect of hearing, view and touch, this information is greatly affected the driving reactions and that is what he indicated (Makki et Hussein, 2013) in a study he has led, where he confirmed that kinetic intelligence is one of the basic variables that determine the activity of the child and its ability to adopt a correct kinetic behavior and good performance. Multiple intelligence, in particular the kinetic intelligence, in order to have one or more capacities to learn different skills, such as (Hazem, 2016) indicates in its study that kinetic intelligence is one of the types of multiple intelligence, which is the use of the body to express thought and feelings, it aims to develop motor skills through sensory receptors, because it is linked to the motivation and physical attributes, which in turn require one or more types of sensory receptors. (Al-Tai and others, 2018) shows that the effectiveness of sensory receivers associated with the driver's performance performs the level of motor intelligence. Body-Kinetic intelligence helps use of the natural senses of the individual in performance, and thus affect success, and therefore the smart person is in good health compared to his peers, "and the individual Super Kinetic Intelligence is characterized by a motor superiority that makes it faster to learn new motor pagers."

Conclusion

Through this study, researchers tried to address the relationship between certain basic motor skills (running, throwing) and kinesthetic intelligence. We found through the results of the field study that kinesthetic intelligence is of great importance for a preschool-old child (05). It shows the extent of the relationship between mental abilities and t the development of the necessary physical and coordinative abilities. Intelligence allows the individual to use his body and it is a synergy between body -kinetic intelligence, it also helps the child to build a perception of the structure of his body and he can link movements and learn motor skills. In the end, despite the results of the study, it is worth pointing out that these results remain confined within the scope of the sample that was applied to and the conditions of the experiment. Future studies should be more in-depth to increase the effectiveness of this study and why it is not based on other basic motor skills other than the skills of running and throwing.

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